

**AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the present application.

**Listing of Claims:**

1. **(Withdrawn)** A negative electrode for a non-aqueous secondary battery comprising an intermetallic compound capable of occluding/desorbing lithium as an active material layer on a collector,

wherein the intermetallic compound contains at least one kind of element A selected from Sn, In, Ge, Ga, Pb, Al, Sb, and Si, and an element X that does not substantially react with Li, and in X-ray diffraction measurement with a  $\text{CuK}\alpha$ -ray of the active material layer, assuming that highest peak intensities of diffraction lines derived from the intermetallic compound and the element A are  $I_a$  and  $I_b$ , respectively, an intensity ratio  $I_b/I_a$  is 0.1 or less.

2. **(Withdrawn)** A negative electrode for a non-aqueous secondary battery comprising an intermetallic compound capable of occluding/desorbing lithium as an active material layer on a collector,

wherein the intermetallic compound contains at least one kind of element A selected from Sn, In, Ge, Ga, Pb, Al, Sb, and Si, and an element X that does not substantially react with Li, and a protective layer for preventing a reaction between the active material layer and the collector is provided therebetween.

3. **(Withdrawn)** The negative electrode for a non-aqueous secondary battery according to claim 2, wherein, in X-ray diffraction measurement with a  $\text{CuK}\alpha$ -ray of the active material layer, assuming that highest peak intensities of diffraction lines derived from the intermetallic compound and the element A are  $I_a$  and  $I_b$ , respectively, an intensity ratio  $I_b/I_a$  is 0.1 or less.

4. **(Withdrawn)** The negative electrode for a non-aqueous secondary battery according to claim 2, wherein the main constituent element of the protective layer is different from that of the intermetallic compound.

5. **(Withdrawn)** The negative electrode for a non-aqueous secondary battery according to claim 4, wherein the main constituent element of the protective layer is at least one kind of element selected from Ti, Ni, Zr, W, and Ag.

6. **(Withdrawn)** The negative electrode for a non-aqueous secondary battery according to claim 2, wherein a thickness of the protective layer is 0.05 to 0.5  $\mu\text{m}$ .

7. **(Withdrawn)** The negative electrode for a non-aqueous secondary battery according to claim 1 or 2, wherein the element X is at least one kind of element selected from Cu, Ni, Fe, Mn, Co, Cr, Mo, W, Ti, and Zr.

8. **(Withdrawn)** The negative electrode for a non-aqueous secondary battery according to claim 1 or 2, wherein the element X is at least one kind of element selected from Cu, Ni, and Fe.

9. **(Withdrawn)** The negative electrode for a non-aqueous secondary battery according to claim 1 or 2, wherein the intermetallic compound is a NiAs type intermetallic compound belonging to a space group  $P6_3/mmc$ .

10. **(Withdrawn)** The negative electrode for a non-aqueous secondary battery according to claim 9, wherein the NiAs type intermetallic compound is  $Cu_6Sn_5$ .

11. **(Withdrawn)** The negative electrode for a non-aqueous secondary battery according to claim 1 or 3, wherein, assuming that a highest peak intensity of a diffraction line derived from an intermetallic compound phase other than the intermetallic compound capable of occluding/desorbing lithium is  $I_c$ , an intensity ratio  $I_c/I_a$  is 0.05 or less.

12. **(Withdrawn)** The negative electrode for a non-aqueous secondary battery according to claim 1 or 2, wherein a thickness of the active material layer is 20  $\mu m$  or less.

13. **(Withdrawn)** The negative electrode for a non-aqueous secondary battery according to claim 1 or 2, wherein a thickness of the active material layer is 10  $\mu m$  or less.

14. **(Withdrawn)** The negative electrode for a non-aqueous secondary battery according to claim 1 or 2, wherein the collector is composed of at least one kind of element selected from Cu, Ni, Fe, and Ti, and an alloy thereof.

15. **(Withdrawn)** The negative electrode for a non-aqueous secondary battery according to claim 1 or 2, wherein the active material layer contains at least one kind of metal element having a melting point of 700°C or lower, in addition to the element A.

16. **(Withdrawn)** A negative electrode for a non-aqueous secondary battery comprising an active material layer substantially composed of a single phase of an intermetallic compound capable of occluding/desorbing lithium,

the active material layer being formed by

alternately laminating, on a collector, a thin film with a thickness of 10  $\mu\text{m}$  or less containing at least one kind of element A selected from Sn, In, Ge, Ga, Pb, Al, Sb, and Si and a thin film containing at least one kind of element X selected from Cu, Ni, Fe, Mn, Co, Cr, Mo, W, Ti, and Zr, thereby forming a laminated film, and

heat-treating the laminated film.

17. **(Withdrawn)** The negative electrode for a non-aqueous secondary battery according to claim 16, wherein a protective layer for preventing a reaction between the collector and the active material layer is provided therebetween.

18. **(Withdrawn)** The negative electrode for a non-aqueous secondary battery according to claim 16, wherein the active material layer contains at least one kind of metal element having a melting point of 700°C or lower, in addition to the element A.

19. **(Withdrawn)** A non-aqueous secondary battery comprising  
a negative electrode having comprising  
an intermetallic compound capable of occluding/desorbing lithium as an active material layer on a collector,  
a positive electrode, and  
a non-aqueous electrolyte,  
wherein the intermetallic compound contains at least one kind of element A selected from Sn, In, Ge, Ga, Pb, Al, Sb, and Si, and an element X that does not substantially react with Li, and  
in X-ray diffraction measurement with a CuK $\alpha$ -ray of the active material layer, assuming that highest peak intensities of diffraction lines derived from the intermetallic compound and the element A are  $I_a$  and  $I_b$ , respectively, an intensity ratio  $I_b/I_a$  is 0.1 or less.

20. **(Original)** A non-aqueous secondary battery comprising  
a negative electrode comprising  
an intermetallic compound capable of occluding/desorbing lithium as an active material layer on a collector,  
a positive electrode, and  
a non-aqueous electrolyte,

wherein the intermetallic compound contains at least one kind of element A selected from Sn, In, Ge, Ga, Pb, Al, Sb, and Si, and an element X that does not substantially react with Li, and a protective layer for preventing a reaction between the active material layer and the collector is provided therebetween.

21. **(Currently Amended)** The non-aqueous secondary battery according to claim 20, wherein, in X-ray diffraction measurement with a  $\text{CuK}\alpha$ -ray of the active material layer, ~~assuming that~~ highest peak intensities of diffraction lines derived from the intermetallic compound and the element A are represented by  $I_a$  and  $I_b$ , respectively, and an intensity ratio  $I_b/I_a$  is 0.1 or less.

22. **(Original)** The non-aqueous secondary battery according to claim 20, wherein a main constituent element of the protective layer is different from that of the intermetallic compound.

23. **(Original)** The non-aqueous secondary battery according to claim 22, wherein the main constituent element of the protective layer is at least one kind of element selected from Ti, Ni, Zr, W, and Ag.

24 **(Original)** The non-aqueous secondary battery according to claim 20, wherein a thickness of the protective layer is 0.05 to 0.5  $\mu\text{m}$ .

25. **(Original)** The non-aqueous secondary battery according to claim 19 or 20, wherein the element X is at least one kind of element selected from Cu, Ni, Fe, Mn, Co, Cr, Mo, W, Ti, and Zr.

26. **(Original)** The non-aqueous secondary battery according to claim 19 or 20, wherein the element X is at least one kind of element selected from Cu, Ni, and Fe.

27. **(Original)** The non-aqueous secondary battery according to claim 19 or 20, wherein the intermetallic compound is a NiAs type intermetallic compound belonging to a space group  $P6_3/mmc$ .

28. **(Original)** The non-aqueous secondary battery according to claim 27, wherein the NiAs type intermetallic compound is  $Cu_6Sn_5$ .

29. **(Currently Amended)** The non-aqueous secondary battery according to claim 19 or 21, ~~wherein, assuming that~~ wherein a highest peak intensity of a diffraction line derived from an intermetallic compound phase other than the intermetallic compound capable of occluding/desorbing lithium is represented by  $I_c$ , and an intensity ratio  $I_c/I_a$  is 0.05 or less.

30. **(Original)** The non-aqueous secondary battery according to claim 19 or 20, wherein a thickness of the active material layer is 20  $\mu m$  or less.

31. **(Original)** The non-aqueous secondary battery according to claim 19 or 20, wherein a thickness of the active material layer is 10  $\mu\text{m}$  or less.

32. **(Original)** The non-aqueous secondary battery according to claim 19 or 20, wherein the collector is composed of at least one kind of element selected from Cu, Ni, Fe, and Ti, and an alloy thereof.

33. **(New)** A non-aqueous secondary battery comprising:  
a positive electrode,  
a non-aqueous electrolyte,  
a negative electrode comprising a single phase of an intermetallic compound that occludes/desorbs lithium as an active material layer on a collector, and  
a protective layer for preventing a reaction between the active material layer and the collector is provided therebetween,

wherein the intermetallic compound contains at least one kind of element A selected from Sn, In, Ge, Ga, Pb, Al, Sb, and Si, and an element X that does not substantially react with Li, wherein X is at least one kind of element selected from Cu, Ni, Fe, Mn, Co, Cr, Mo, W, Ti, and Zr,

in X-ray diffraction measurement with a  $\text{CuK}\alpha$ -ray of the active material layer, highest peak intensities of diffraction lines derived from the intermetallic compound and the element A are represented by  $I_a$  and  $I_b$ , respectively, and an intensity ratio  $I_b/I_a$  is 0.1 or less, and



wherein the main constituent element of the protective layer is at least one kind of element selected from Ti, Ni, Zr, W, and Ag.